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09/781,250	02/13/2001	Takashi Fuchisawa	Q62939	8086
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SUGHRUE, MION, ZINN, MACPEAK & SEAS 2100 Pennsylvania Avenue, N.W. Washington, DC 20037			EXAMINER MOORE, IAN N	
			ART UNIT 2661	PAPER NUMBER

DATE MAILED: 04/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/781,250

Applicant(s)

FUCHISAWA, TAKASHI

Examiner

Ian N Moore

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. An objection to the title of invention is withdrawn since it is being amended accordingly.
2. Claims 1-7 are amended, and claim are 8-9 are added.
3. Claims 1-9 are rejected by the new ground(s) of rejection necessitated by the amendment.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Tuutijarvi (U.S. 5,870,675).

**Regarding claims 1**, Tuutijarvi discloses a mobile phone system (see FIG.

1, cellular system) comprising:

A plurality of base stations (see FIG. 1, four BS, base stations)

wherein each of the plurality of base station includes circuitry to transmit (see FIG. 1, BS contains transmission circuitry) a logical control channel signal (see FIG. 4b, slow associated control channel SACCH) in a designed transmission time slot

(see FIG. 4b, a second transmitting time slot, SACCH) of a frame (see FIG. 4b, TDMA frame), the designed transmission time slot being the same for each of the plurality of base station (see FIG. 4b, a second time slot at the transmitting BS side; see col. 2, lines 32 to col. 3, lines 10; note that the second time slot in TDMA frame is the defined by US TDMA standard, thus each BS uses the same slot for control channel; also see col. 4, lines 1-40; more than one BS transmit frames for handover);

at least one mobile phone (see FIG. 1, MS, Mobile station) includes circuitry to receive (see FIG. 3, MS circuitry) the logical control channel signal in a designed reception time slot of the frame (see FIG. 4b, a second reception time slot, SACCH, of the receiving MS side since the same time slot sent by each base station is received at the MS), corresponding to the designated transmission time slot of each of the plurality of base station (see col. 2, lines 32 to col. 3, lines 10; note that the second time slot in TDMA frame is the defined by US TDMA standard, thus each receive second time slot corresponds to each transmits second time slot by BS), the designed reception time slot being the same for each frame of a plurality of frames (see col. 4, lines 1-40; more than one frame for base stations are received for handover) of said at least one mobile phone (see col. 2, lines 32 to col. 3, lines 10; note that the received second time slot is the same for each TDMA frame of the received TDMA frames at mobile station for handover);

wherein when receiving the logical control channel in the designated reception time slot of the frame, said at least one mobile phone receives an

information channel signal (see FIG. 4b, DATA channel) in an other reception time slot (see FIG. 4b, third reception time slot) of the frame (see FIG. 4b, TDMA frame), the information channel signal being transmitted from one of said plurality of base station (see col. 4, lines 1-37; see col. 4, lines 1-40; BS transmits DATA channel to MS).

**Regarding Claim 2**, Tuutijarvi discloses wherein said one of said plurality of base stations servers as a handover source (see col. 4, lines 25-36; see col. 7, lines 30-60; a BS currently serving MS) and said at least one mobile phone receives a different information channel signal transmitted (see FIG. 4b, SYNC channel) from an other base station of said plurality of base station serving as a handover destination after handover is performed (see col. 4, lines 20-35; see col. 7, lines 5-15; 35-40; a new base station to perform handover).

**Regarding Claim 7**, the method claim, which has substantially disclosed all the limitations of the respective system claim 1. Therefore, it is subjected to the same rejection.

**Regarding Claim 9**, the system claim, which has substantially disclosed all the limitations of the respective system claim 1. Therefore, it is subjected to the same rejection.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuutijarvi in view of Yahata (US 6,480,483).

**Regarding claim 3**, Tuutijarvi discloses wherein the logical control channel signal is successively transmitted from each of said plurality of base stations as described above in claim 1.

Tuutijarvi does not explicitly disclose transmitted at a fixed period timing. However, the above-mentioned claimed limitations are taught by Yahata'483. In particular, Yahata does not explicitly discloses transmitted at a fixed period timing (see FIG. 8, TDMA frame timing) from each of said plurality of base stations (see FIG. 4, Master Station CS1, CS2... and slave base station CS100, CS200; see col. 15, lines 6-30; note that master base station CS1 utilizes the GPS to time each slave base station so that the signal the transmitted by each base station is synchronized).

Note that Tuutijarvi teaches each base station transmitting control channels to the mobile station. Yahata'483 teaches that each base station is synchronized by means of GPS. Thus, Tuutijarvi's base stations can be synchronized with a single reference clock such as GPS. Thus, it is clear that each synchronized base station transmit the control channel signal at fixed period time since each base station is synchronized in transmission in timing. In view of this, having the system of Tuutijarvi and then given the teaching of Yahata'483, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the

system of Tuutijarvi, for the purpose of providing mechanism of synchronizing between base stations, as taught by Yahata'483, since Yahata'483 states the advantages/benefits at col. 5, lines 49-65 that it would provide synchronization between base station. The motivation being that by providing the synchronization between base stations, it can reduce the synchronization failures (i.e. improper handover) due to clock drift between base stations, which result in clock drift between base station and mobile station.

**Regarding claim 4**, Tuutijarvi discloses wherein the logical control channel signal is successively transmitted from each of said plurality of base stations as described above in claim 1.

Tuutijarvi does not explicitly disclose transmitted at a fixed period timing. However, the above-mentioned claimed limitations are taught by Yahata'483. In particular, Yahata discloses wherein each of said plural base stations is synchronized in transmission timing among said plurality of base stations (see FIG. 7, steps a-p; note that master base station C1 is synchronized with GPS reference timing, and the master station C1 sends a control signal to slave base stations CS103, 104, 107 for synchronization. The slave base stations synchronize with the master base station; see col. 14, lines 25 to col. 17, lines 54).

Note that Tuutijarvi teaches each base station transmitting control channels to the mobile station. Yahata'483 teaches that each base station is synchronized by means of GPS. Thus, Tuutijarvi's base stations can be synchronized with a single reference clock such as GPS. Thus, it is clear that each synchronized base station

transmit the control channel signal since each base station is synchronized in transmission in timing. In view of this, having the system of Tuutijarvi and then given the teaching of Yahata'483, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tuutijarvi, for the purpose of providing mechanism of synchronizing between base stations, as taught by Yahata'483, since Yahata'483 states the advantages/benefits at col. 5, lines 49-65 that it would provide synchronization between base station. The motivation being that by providing the synchronization between base stations, it can reduce the synchronization failures (i.e. improper handover) due to clock drift between base stations, which result in clock drift between base station and mobile station.

**Regarding Claim 5**, the claim, which has substantially disclosed all the limitations of the respective claim 4. Therefore, it is subjected to the same rejection.

8. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuutijarvi in view of Hammer (U.S. 4,872,204).

**Regarding claim 6**, Tuutijarvi discloses wherein said at least one mobile phone detects a reception level of each of logical control channel signal received (see col. 4, line 5-9; the mobile unit measures the received RSSI up to 24 different channels), and said one base station serving as said handover source compares the reception level of each logical control channel signal detected with the reception level of said information channel signal which is transmitted/received to/from (see



col. 4, lines 9-24; up receiving the signal measurement from MS, source/currently serving BS compares the measured and threshold channel signal levels).

Tuutijarvi does explicitly disclose wherein said mobile phone compares the reception level of the signal with the reception level of the signal, which is transmitted/received to/from said one base station.

However, the above-mentioned claimed limitations are taught by Hammer'204. In particular, Hammer'204 teaches wherein said at least one mobile phone (see FIG. 2, Mobile Station 13) detects a reception level (see FIG. 2, Signal Strength I of curve G) of each logical control channel signal received (see col. 6, lines 44-55; mobile station 13 searches the alternative base station to be assigned as the signal strength I of curve G of reception of said control information transmission channel), and compares the reception level of the logical control channel signal detected (see FIG. 2, Signal Strength I of curve F, from BS 10) with the reception level of an information channel signal (see FIG. 2, Signal Strength I of curve F, from BS 11) which is transmitted/received to/from said one of said plurality of base stations serving as said handover source (see FIG. 2, see col. 7, line 25-47; note that mobile station compares the signal strength I of curve G of the alternative base station 11 with the signal strength curve F of currently communicating base station 10).

In view of this, having the system of Tuutijarvi, then given the teaching of Hammer'204, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tuutijarvi, for the purpose of

Art Unit: 2661

providing the mobile station comparing the signal strength, as taught by Hammer'204, since Hammer'204 states the advantages/benefits at col. 2, lines 1-10 that it would improve the quality of transmission and reception of the individual remote mobile station. The motivation being that by scanning the signal strength of the alternative base station and comparing to currently communicating base station at the mobile unit, it can increase the transmission signal quality of the mobile unit since the mobile unit is signal strength is maintained.

**Regarding claim 8**, the combine system of Tuutijarvi and Hammer discloses all aspects of the claimed invention set forth in the rejection of Claim 1, 6 and 8 as described above. Hammer further discloses wherein said at least one mobile phone chooses said logical control channel signal having the highest reception level when the reception level of each of said logical control channel signal detected is higher than the reception of said information channel signal (see col. 5, lines 45 to col. 6, lines 14; see col. 35-65; see col. 7, lines 5-46). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tuutijarvi, as taught by Hammer for the motivation as stated above in claim 6.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

**Regarding claims 1-9, the applicant argued that,** "...Tuutijarvi does not discloses wherein each of a plurality of base station includes circuitry to transmit a logical control channel signal in designated transmission time slot of frame... Tuutijarvi is silent on the manner in which plurality of base stations transmits a logical control channel signal..." in page 11, paragraph 2; page 12, paragraph 1-2; page 13, paragraph 2,;

**In response to applicant's argument, the examiner respectfully disagrees** that Tuutijarvi does not disclose above limitations, and these limitations are recited in above rejection. In addition, one skilled in the ordinary art would easily recognize that each mobile/wireless base station must include circuitry to transmit or receive, otherwise, it will be impossible to utilize as mobile/wireless base station. Also, one skilled in the ordinary art would easily recognize that each base station in the network transmits a logical control channel signal in designated transmission time slot of frame in accordance the predefine wireless mobile standards, otherwise, it would be impossible to communicate (i.e. registration, connection, paging, handovers, and other control tasks) with mobile station in the network. As it clearly disclosed by Tuutijarvi, Tuutijarvi's each of a plurality of base station transmit a logical control channel signals in designated transmission time slot of US TDSM standard frame, and the mobile station communicates with the plurality of base stations in order to perform signal strength measurement and handovers (see above rejection). Thus, it is clear that Tuutijarvi anticipated the applicant claimed invention.

**The applicant argued that,** "...examiner incorrectly assumes that SACCH is logical control channel signal... Tuutijarvi does not disclose whether SACCH is transmitted **concurrently, successively, intermittently** or otherwise from a plurality of base stations...there is no disclosure in Yahata suggesting **successively** transmitting logical control channel signals from a plurality of base station.." in page 17, paragraph 1.

**In response to applicant's argument** that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., **concurrently, successively, intermittently**) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

**In response to applicant's argument, the examiner respectfully disagrees** examiner incorrectly assumes that SACCH is logical control channel signal. SACCH, Slow Associated **Control** Channel, is used send control and signaling information to the mobile station. Thus, SACCH is logical control channel signal. As recited in above response, a plurality of base station must communicate (i.e. registration, connection, paging, handovers, and other control tasks) with mobile station in the network, and it is the very basic function of mobile communication. In particular, Tuutijarvi discloses a plurality of base station (e.g. at least serving and target base stations) communicate with mobile station for signal strength measurement and handover.

In view of the above, **the examiner respectfully disagrees** with applicant's argument and believes that the references as set forth in the 102 and 103 rejections are proper.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N Moore whose telephone number is 571-272-3085. The examiner can normally be reached on M-F: 9:00 AM - 6:00 PM.

Art Unit: 2661

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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